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Reservoir Suitability Report

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1. Introduction

In August 2008, Inergy Midstream acquired US Salt, LLC (US Salt) and its property located in the Town of Reading, Schuyler County, north of the Village of Watkins Glen, New York. A general location map is attached as **Exhibit 1**. US Salt has been in the business of salt production for over 100 years by solution mining underground salt deposits on property adjacent to Seneca Lake. In order to utilize the depleted salt caverns owned by US Salt, Inergy Midstream formed Finger Lakes LPG Storage, LLC for the purpose of storage of Liquid Petroleum Gas (LPG) in the form of propane and butane. In order to do so, several of the old wells/galleries have been reentered to determine integrity. This Reservoir Suitability Report presents information based on known geology of the salt deposits, US Salt company files, public records and publications, competency of overlying formations, hydraulic pressurization of wells and caverns to demonstrate integrity of these caverns and the ability to safely retain LPG.

2. Project Overview

Finger Lakes LPG Storage, LLC (Finger Lakes), a subsidiary of Inergy Midstream, LLC, plans to construct an LPG (liquid propane and butane) storage system with a pipeline connection and rail and truck load/unload racks. LPG (Butane or propane) will be stored in caverns in the Syracuse Salt formation on property owned by Finger Lakes' affiliate, US Salt.

Specifically, Finger Lakes plans to convert **Gallery 1** (wells 33, 43, 34 and 44 after workovers and new wells are drilled) and **Gallery 2** (wells 30, 45 and 31 after new wells are drilled) to LPG storage service according to the plans set forth in this Report. <u>See</u> **Exhibit 2**, which includes Map 1 which shows the location of the two (2) galleries, each well within each gallery, well status, well depth, and API numbers; and Map 2 which provides an overall site plan, showing the location of certain project components including a rail spur, truck unloading racks, brine pond, pipelines, electric lines and storage tanks. A south to north cross-section has been created to show the gallery relationships between wells 33, 44, 34, and 43 along with the overlying formations of Camillus shale, Bertie anhydrite, Helderberg limestone, Oriskany sandstone, Onondaga limestone and Marcellus shale. The casing seat deviations are shown only where they fall along the cross-section line. The original total depths of the wells are shown and the lowest sonar depths of each well are recorded. The rubble pile thickness is the difference between the original total depth and the bottom depth recorded by the latest sonar survey.

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[1] This report was prepared by John Istvan of International Gas Consultants (IGC), with the assistance of Leonard Dionisio of Inergy Midstream, Barry Moon of Inergy Midstream, and Barry Cigich of Inergy.

The caverns will initially be full of brine (as they are now). A multi-stage split case centrifugal (or equivalent) pump will be used to transfer product to the cavern from the TE Products Pipeline Company, LLC ("TEPPCO") pipeline or via rail or truck. During the injection cycle, brine will be displaced out the bottom of the cavern as the LPG is pumped in the top. The process will be reversed during the withdrawal cycle when brine is pumped into the bottom of the cavern and LPG is withdrawn from the top. A surface pressure of approximately 1000 psi will be maintained when the well is closed and a minimum of 500 psi when in operation when LPG is in the cavern, depending on the surface elevation of the well and depth of the cavern.

LPG can be received by pipeline (TEPPCO), truck or rail. The pipeline will feed the suction of the high pressure pump for injection directly into the cavern in the injection cycle at an initial design rate of 5,100 Barrels Per Day (BPD) to 48,000 BPD. The railrack (to be constructed on property recently acquired by Finger Lakes) is projected to be capable of loading or unloading 24 rail cars in 12 hours with space to park 24 rail cars. Surge capacity (bullet storage tanks) will consist of 5-30,000 gallon vessels, which can be used for butane or propane. The truck rack is projected to be capable of loading or unloading 30 trucks/day.

A transfer pump system utilizing centrifugal "can" pumps will be installed to load trucks and to supply the required Net Positive Suction Head (NPSH) to the high pressure pumps. A vapor circulation system utilizing compressors will be used to unload rail cars or trucks.

Propane will be withdrawn through a dehydration system to remove any water vapor from the product.

Brine circulated from the caverns will be stored in one or more above-ground ponds. All brine will be circulated through a separator with an active flare before being transferred to storage in the pond.

Out of the existing sonar determined storage capacity for Gallery 1 (wells 33, 43, 34 and 44) of close to 5 million barrels, Finger Lakes plans to initially store approximately 2.5 million barrels of LPG for its new customers. That total could increase to 4.5 million barrels as customer demand changes.

Gallery 2 (wells 30, 31, and 45) will store about 1,000,000 barrels including some volume in the rubble pile as it has successfully stored this level of volume in its past operation.

3. <u>Location and Regional Geology</u>

The Watkins Glen brine field, located in Schuyler County, is in the south central part of New York State, along the west shore of Seneca Lake. <u>See</u> the general location map in Exhibit 1. It is approximately 2 miles north of the village of Watkins Glen. Physiographically, the region is part of the Finger Lakes district of the Allegheny plateau that has been peneplaned, uplifted and glaciated. Due to glaciation, the area is marked by deep valleys that are now occupied by the Finger Lakes and hanging tributary valleys. Rocks that outcrop in the area are Devonian Age sedimentary formations that dip gently to the southwest. The terrain rises steeply across the site toward the west from the lake shore at about 270 feet/quarter mile. The site is covered with native vegetation.

Sediments encountered by wells drilled in the brinefield range in age from Upper Devonian, Genesee shales, to the Upper Silurian, Salina group, Syracuse salt and underlying Vernon shale. Several stratigraphic columns are included in **Exhibit 3**. Sediments are composed of shales, sandstones, limestone and dolomites with the shales of the Middle Devonian, Hamilton group, being 800 feet in thickness and separated from the upper Devonian shales by about 30 feet of middle Devonian Tully limestone. The Hamilton group is underlain by the middle-lower Devonian, Onondaga limestone that overlies the lower Devonian Oriskany sandstone. The Oriskany is rather sporadic in occurrence and has not been identified in all wells.

Below the Oriskany, sediments of the Upper Silurian, Bertie and Salina groups are encountered and consist of limestone, dolomite, shale, anhydrite and evaporate salt beds. The salt being dissolved is part of the Syracuse salt formation that is a member of the Salina group of the Cayugan series of the Upper Silurian system. It consists of six distinct beds with the possibility of a thin salt stringer some 40 feet below the sixth salt. See Exhibit 3. The salt beds are intensely folded into a series of local east-west anticlines and synclines with only a few tens of feet from crest to crest (Jacoby, 1963, p. 508). See **Exhibit 4**. It is likely that the salt and incompetent shales of this section flowed plastically and absorbed the shock of the regional tectonic force during the Mesozoic era, and gave rise not only to the intense folding, but also faulting of the salt section. This is apparent when the structure of the salt is compared to the overlying sediments. The overlying sediments are characterized by broad, gentle east-west synclines and anticlines with axes generally paralleling the sharp folds of the underlying evaporites. On the basis of the cores from the Watkins Glen brine fields (see Section 7.3 below), some beds appear to pinch out completely while others double in thickness over a distance of 300-400 feet as depicted in the cross-section drawn along a north-south line. [redacted]

4. Historical Development of Salt Caverns and Previous Usage for Hydrocarbon Storage

The US Salt caverns and wells have had a limited productive life (for brining and salt production purposes) because they have relied on "reverse injection" after the wells are hydraulically connected by fracturing, according to Jacoby. That is, water was injected near the top of the salt to form "morning glory" cavern shapes. That method of brining leaves large volumes of undissolved salt in the ground. In addition, broken brine return tubing from accelerated brining and encountered ledges in some caverns have led to early abandonment. The technology of developing storage space, while still producing brine for human consumption, has changed radically since the days of International Salt Company (a predecessor to US Salt) and Jacoby.

[redacted]

[redacted] The wells were abandoned in 1986 when the storage contract terminated with TEPPCO since they required a larger volume of storage than what US Salt was willing to provide.

5. **Well Construction and Well History**

Wells 33, 34, 43 and 44 were drilled in 1961, 1961, 1966 and 1967 respectively, plugged and abandoned in 1976, 2004, 2004, and 2004 respectively and reentered in early 2009 by Inergy.

[redacted] On that basis, Inergy and US Salt performed a hydrotest of the gallery in preparation ultimately for a nitrogen/brine interface mechanical integrity test of the gallery.

[redacted]

6. **Evaluation of Well and Cavern Integrity**

[redacted]

results are described in Section 6.2 below and the Well Status and Condition Report for each of the wells included in Galleries 1 and 2 is attached to Finger Lake's application in Tab D.

6.1 Vertilogs

Vertilogs have been run in wells 33, 43, 34 and 44 to determine remaining wall thickness of the existing wells in order to determine if those wells are suitable for underground storage of liquid hydrocarbons. The purpose of performing a vertilog is that if a well indicates poor integrity from the vertilog information or from the hydrotest, that well will either be a candidate for a new liner or will be abandoned and a replacement well drilled to move product in and out. Cemented casing in Well 34 is too small for LPG storage operations and the well will be abandoned. [redacted] Both wells 33 and 43 will be used for LPG storage.

6.2 Hydrotests

Hydrotesting of the caverns formed by Wells 33, 34, 43 and 44 has shown that the caverns and existing wells are tight up to a 0.8 psi/foot of depth of the casing seats. [redacted]

6.3 Gamma Ray and Neutron Logging

Gamma ray and neutron logs have been run in the past by International Salt Company to compare the open hole logs with the status of the lithology as solution mining takes place. That comparison clearly shows where the lithology is the same as before brining commenced and after salt has been removed. These tools are important to the operation of the reservoir since repetitive and comparative logs will alert Finger Lakes to any changes that might affect the well and cavern operation.

6.4 Material Balance for Injected and Withdrawn Hydrocarbons

Evidence of well and cavern problems can be quantified simply by careful recording of product injection and comparison with product withdrawal. In most cases, the amount of product injected, much like the ups and downs of subsidence monuments, can be more than what is withdrawn, or vice versa. It becomes obvious however, when product or brine are lost in large numbers, by significant variations in the operating pressures. Prudent operators will quickly shut-in operations when pressures do not respond to the norm. Finger Lakes and Inergy are cognizant of the overall pressures required for safe operations of hydrocarbon storage caverns based on years of experience and will never permit leakage that would jeopardize the public or USDW.

7. Suitability of Caverns to Store LPG

7.1 Methodology

[redacted][2] Digital recording devices were installed on the wellheads of the US Salt and NYSEG LPG and natural gas storage caverns during the hydrostatic testing.

Hydrostatic pressure testing at a gradient of 0.8 psi/foot was performed by [redacted] See attached pressure data from the hydrotest as **Exhibit** 7.

New sonars of caverns for the proposed Finger Lakes Gallery 1 showed the salt pillar thickness relationships between Inergy/US Salt nearest well 33 and the natural gas caverns of Seneca Lake Storage wells 27/28/46/59, as well as the planned Finger Lakes LPG storage caverns 30/31/45 (Gallery 2) .

Finger Lakes plans to drill a new well between 34 and 44 at the highest point in the joint cavern, [redacted] Nitrogen/brine MITs on each well in the cavern will be performed and Gallery 1 (33, 43, 34, and 44) will be converted to LPG storage service after an Underground Storage Permit is received. Well 34 will be plugged and abandoned, and wells 33, the new well, wells 43, 44 and any other needed well will individually be tested with a nitrogen/brine interface MIT test before conversion. [redacted]

7.2 Discussion of Geologic Cross-Sections, Faults Analysis and Jacoby

As requested by DEC, Finger Lakes has reviewed the papers of C.H. Jacoby regarding the Watkins Glen brine field.

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[2] At the time the wells were re-entered for purposes of conducting hydrostatic testing, DEC asked about monitoring well 19. However, well 19, about 150 feet northeast of US Salt well 44, was never drilled.

Jacoby writes that faulting is pervasive in the brine field, resulting in alternating thinning and thickening of both salt and insoluble layers. However, that faulting is limited to the Salina salt interval, since Finger Lakes' interpretation is that there is no indication the faults extend into overlying beds or the underlying Vernon shale. The [redacted]

Jacoby is correct in that the rafting of the salt from the southeast has caused rupture of the interbedded, non salt layers. However, the plasticity of salt as the gross salt thickness was thrust to the present state along the decollement has resulted in the closure of any porosity around the "faults", enclosing them with salt. Experience at other bedded salt locations has shown that whenever a layer of insolubles is undercut and falls into the bottom of a developing cavern, the space can be recovered by working the well over and adding new tubing to the injection string. In the case of the proposed Finger Lakes Gallery 1, considerable space has been retained that is suitable for hydrocarbon storage, indicating that the roof and walls have structural integrity. Since the roof span has been stable with hydraulic support from brine, then stability with liquid butane and/or propane is assured.

[redacted] There may not have been any tectonic activity in this area since the Appalachian Orogeny approximately 225 million years ago.

The Appalachian Orogeny took place starting in the Late Devonian period and continued into the Permian. This entire region of North America was subjected to compressive forces that were acting in a north-south direction creating a series of parallel folds and thrust faults that strike from east to west across the area. In addition, some high angle strike-slip faults oriented north to south have deformed the Silurian and Devonian Rocks in this immediate area.

As more wells have been drilled into salt and underground mines developed, geologists have come to a better understanding of the mechanical characteristics of salt and its response to the tectonic forces that create folding and faulting. "Faulting is a major component of most hydrocarbon traps. Many faults form the boundary plane of a pool of oil and gas, and this may be due to the fact that the fault is tightly sealed and holds the petroleum from further migration" (Levorsen, 1954). The existence of faulting does not indicate necessarily that there is a pathway for fluids to migrate.

At the US Salt brine field, Jacoby and Dellwig reported a vertical north to south trending strike-slip fault located east of brine wells 29, 37 and 41. [redacted]

[redacted] In the same paper Jacoby and Dellwig concluded that "[t]he structure contour map on the top of the salt gives no indications of the faults breaking up into the overlying sediments." Therefore, all of their discussion of faulting is confined to the salt and the intervening rock layers which are known to be plastic.

In conclusion, the prudent way to determine the suitability of a cavern to store hydrocarbons is to test the cavern's pressure containment capability. Having reviewed all the evidence of the past operating data, geological and engineering studies and the results of sonars, hydrotests, vertilogs, various types of other logs, and the successful pressure tests, Inergy and Finger Lakes, as an experienced operator, has concluded that the suitability of these caverns to store LPG is assured and confirmed.

7.3 Core Test Results

The attached core testing (originally performed in connection with Seneca Lake Storage's application to DEC) is submitted to support this Reservoir Suitability Report. See **Exhibit 8**. The core descriptions by RE/SPEC Inc. verify much of what Jacoby reported in his papers including the fact that the insoluble fragments and "faults" are all enclosed with recrystallized salt and do not create a situation where an insoluble fall into the cavern means that the developing space must be abandoned. [redacted]

The caprock across the area and over the caverns are dense, hard and relatively contiguous shales and dolostone/dolomites with compressive strengths over 10,000 psi. Those high compressive strengths and solid correlation of beds across the brine field attest to the competent roof span shown in the sonar surveys, in spite of the faulting and graben shown on the Seneca Lake Storage cross-sections, and in the Jacoby papers. [redacted]

[redacted] This is not surprising since all of these locations are in the same salt basin.

[redacted]

8. Rock Mechanics and Finite Element Analysis

The attached rock mechanics (**Exhibit 9**) and Finite Element Analysis reports (see **Exhibit 10**) from the Seneca Lake Storage applications for Gallery 2 have concluded that the gallery does not affect the integrity of adjacent wells, caverns and galleries, including the natural gas stored to the east in Seneca Lake Storage Gallery 1. Wells 34 and 44 have maintained a very high roof, attesting to the integrity of proposed Finger Lakes Gallery 2. The salt and insoluble layers correlate within the south to north cross-section through the salt section.

The high roof of caverns 34 and 44 are very stable and with the hydrostatic pressure testing performed by Inergy proving in-situ integrity, the Seneca Lake Storage rock mechanics study results are verified. If other than normal undercutting of insoluble layers causes beds to fall into the caverns (i.e. faulting) then the large roof span could not be maintained. Due to the fact all of the caverns in the area, except the Seneca Lake Storage natural gas cavern gallery, are being supported by hydraulic pressure of brine, and later by liquid petroleum gasses, there will be no integrity problems in storing liquid hydrocarbon products, nor any need to perform a new Finite Element Analysis since the attached report is based on weak support of the roof and cavern walls if the Gallery is used for low minimum pressure gas storage. In addition, there is no hint of pressure communication between Gallery 2 with Gallery 1.

[redacted]

Based on the attached rock mechanics and Finite Element Analysis performed previously by NYSEG, and with the proposed storage caverns being operated at hydraulic pressures, Finger Lakes does not believe more rock mechanics testing and

Finite Element Analysis is required to permit LPG storage for any of the planned gallery storage once the wells pass the individual MIT testing.

9. Sonar Reports and Surveys

There will not be any solution mining in preparation for the conversion of Gallery 1 to hydrocarbon storage. Gallery 1 has been sonared in 2009 and additional sonar will not be required until 2019.

When the wells for gallery 2 are redrilled or new wells drilled, new sonars will be performed (and periodically thereafter every 10 years). Directional surveys will also be performed when the new wells are drilled.

Out of the existing sonar determined storage capacity for Gallery 1 (wells 33, 43, 34 and 44) of close to 5 million barrels, Finger Lakes plans to initially store approximately 2.5 million barrels of LPG for its new customers. That total could increase to 4.5 million barrels as customer demand changes.

Gallery 2 (wells 30, 31, and 45) will store about 1,000,000 barrels including some volume in the rubble pile as it has successfully stored this level of volume in its past operation.

Increase in permitted total capacity over the life of the caverns, however caused, will not exceed 1 - 2% based on operations by displacement of product if by less than saturated brine.

10. Minimum and Maximum Storage Pressures

Salt caverns in LPG storage remain full of liquid at all times. The fluid pressure in the well and cavern depends on the height of the column of fluid(s) in the well and the weight of the fluid in the column. There are two columns of fluid in the LPG storage well. The well casing is cemented into the rock formations and goes from the surface to a point just above the salt layer, ending at the "casing shoe." A tubing string is hung from the wellhead and passes down through the inside of the cemented production casing, past the casing shoe to near the bottom of the cavern. The tubing is full of either brine or fresh water. The space around the tubing inside the casing is called the annulus. The annulus is filled with brine when the cavern is empty and with LPG when the well is in storage service. Storage is accomplished by pumping LPG down the annulus and displacing brine out from the cavern into the tubing to the surface. Recovery of product is accomplished by pumping brine or water into the tubing and displacing LPG back out of the cavern up the annulus to the surface facilities. The well/cavern system is a closed system.

The pressures at the casing shoe and in the cavern are always controlled by the weight of the column of fluid in the tubing. The pumping pressures are the pressures required to overcome the weight of brine or LPG in their respective columns plus the friction acting against the flow.

Finger Lakes' proposed maximum and minimum operating storage pressure is based on constant LPG or brine pressures in the wells and caverns making up each of the galleries. The wells will be operated in parallel and will all be at the same pressure, either under hydraulic pressure of brine or LPG pressure. [redacted]

The rock mechanics and finite-difference data (same as finite-element analysis) evaluations (Exhibits 9 and 10) being provided by Finger Lakes with this application is from the Seneca Lake Storage submittals for their Gallery 1 and 2. A 0.75 psi/foot pressure to the casing seat was assumed in their analysis. Finger Lakes hydrostatic testing in proposed Gallery 1 was at 0.8 psi/foot, in excess of the favorable testing performed by Seneca Lake Storage. The Gallery 2 pressure testing was at 0.75 by Seneca Lake Storage. Since the salt in the field is similar throughout, Finger Lakes as a prudent operator, will test with nitrogen/brine MIT at 0.75 psi/foot at the casing seats in both new and existing wells in Galleries 1 and 2 before product is injected into those wells.

11. <u>Cavern Development Plan</u>

11.1 <u>Finger Lakes Gallery 1</u>

No additional solution mining is planned for the Finger Lakes Gallery 1 consisting of well 33, 43, 34 and 44 caverns. That existing space is suitable for storage of hydrocarbons based on the work that has been performed. Well 44 has had a new liner installed and cemented. That work includes the sonars, hydrotest of the four wells and caverns, and the lack of pressure interference with adjacent wells and caverns when the hydrotest test was run on the wells. The only increase in cavern dimensions will be about 1-2% annually by the displacement of hydrocarbon products with slightly undersaturated brine, and then because the gallery is so large, the increase might not be noticeable by sonar survey since additional insolubles will accumulate on the cavern bottom, reducing the overall cavern volume.

The Baker Atlas Segmented cement bond log for well 33 run on January 26, 2009 [redacted] The casing seat is at 2,000 feet, top of cavern = 2,013 feet, and Top of salt = 2,014 feet. Tubing (8 $^5/_8$") was installed at 1,975 feet and cemented to the surface. Tubing (4 ½") was also set at 2,220 feet and hung in the new wellhead and used for hydrocarbon storage. As noted above, no major increase in cavern size will occur except for the ~1-2% annual increase by product displacement with undersaturated brine.

In order to convert to LPG storage, well 34 will be plugged and abandoned since the production casing is too small for the planned storage injections and withdrawals. A new well (FL #1) will be drilled and cemented into the salt between wells 34 and 44 at the high point determined by the combined sonar surveys of those two wells. That well will be the primary product injection well for Finger Lakes Gallery 1. A new well (FL #2) will be drilled north east of Well 44 for injections and withdrawals of brine. Well 44 will also be used for additional injection and withdrawal of brine to facilitate product movements in and out of the Gallery.

11.2 Finger Lakes Gallery 2

[redacted] The only increase in gallery volume might be ~1-2% annual increase that may occur by product displacement with undersaturated brine. [redacted]

12. Review of Historic Earthquake Activity

A base map compiled by the National Geophysical Data Center, updated by IGC using USGS data, is attached as **Exhibit 11**. There are no risks involved at the site with earthquakes within ½ mile of any of the subject Galleries.

13. Subsidence Monitoring

US Salt has been monitoring the elevations of wellheads and other subsidence monuments for decades and providing a report every 5 years. Experience has shown that as many monuments show a reduction in elevation as show an increase in elevation. Much of the changes in elevation are due to the change in the weather from warm to cold. This phenomenon is universal and documented surveys show that there has been no significant subsidence across the field mainly due to the stiffness of the overlying formations.

Finger Lakes proposes to continue the present schedule of subsidence monitoring.

14. Safety and Emergency Shutdown

Finger Lakes intends to have in place, prior to the commencement of operations, a number of different manuals or programs, all designed to prevent accidents. This will be accomplished through an Operations Manual, a Spill Prevention and Control Manual, an

Accident Prevention Program, a Hazard Communication and Assessment Program, a Safety Manual, and a Facility Security Manual.

Each of these manuals will contain the necessary information for safe operation of the Facility. Safe operations are accomplished via training. Employees will be required to take computer based training every two (2) years at a minimum. In addition to the computor-based training, each employee will experience at least six months on the job during which specific training and monthly safety meetings are given to reinforce the computer based training. Also, task specific safety meetings will be held.

Every employee will be familiar with Material Safety Data Sheets ("MSDS"), personal protective equipment required, and the contents of each of the manuals. The MSDS's for propane and butane are attached as **Exhibits 12 and 13**, respectively. An MSDS for mercaptan is attached as **Exhibit 14**.

Operating procedures, wellhead controls and check valves will be installed to ensure safety and prevent accidents. A description of the engineered Safety Controls on the caverns will be included in the Operations Manual.

15. Mechanical Integrity Testing Procedures

Deliberate over-pressuring of the well and cavern occurs when MITs are performed. The procedure for MITs is attached hereto as **Exhibit 15**. The purpose of an MIT is to show that the structural part of the cavern that protects the Underground Source of Drinking Water (USDW) will not allow gas to penetrate those formations. MIT pressures are above operating pressures but still significantly below the safe working pressures of the pipe and cement, and even further below the lithostatic pressures above the cavern and the compression that the cavern roof and salt walls can withstand. MITs are short duration tests and the existing wells and caverns have always passed these tests without any significant loss of pressure.

Even more compelling, however, are the long term in-situ tests that have been performed on the caverns showing that those caverns do not leak even when subjected to much higher than operating pressures for weeks or months. Finger Lakes will monitor pressures on its caverns on a daily basis so that any leak would be detected quickly.

Finger Lakes understands that DEC requires nitrogen/brine interface MIT at all wells prior to first injection of product and at five-year intervals thereafter as nitrogen testing is the industry standard for testing gas tightness in storage caverns. Inergy currently performs its MITs at five year intervals, and Finger Lakes proposes to conduct MITs on the wells that are the subject of this Application at five-year intervals in the future.

16. Conclusions

State-of-the art hydrotesting has been performed on the gallery shown as Finger Lakes Gallery 1 (33, 43, 34 and 44). [redacted] Careful evaluation was performed to study the well logs, including casing inspection, cement bond, gamma ray and neutron logging, and detailed studies of the related geology. Inergy/Finger Lakes is confident that the aforementioned galleries will remain safe to operate LPG injections and withdrawals under constant hydraulic pressures, and will not affect Seneca Lake Storage's natural gas storage operations in its Gallery 1 (wells 27, 28, 46 and 59).

17. References

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f. Coring Activities – NYSEG Well 59, Seneca Lake Storage Project, Watkins Glen, New York; Topical Report RSI-0655, RE/SPEC, Inc., January 1996

g. Mechanical Properties of Salt and Dolostone from AKZO Nobel Salt, Inc., Well No. 58 and NYSEG Well No. 59, Seneca Lake Storage Project, Watkins Glen, New York, Topical Report RSI-0668, RE/SPEC, Inc., January 1996

h. Geomechanical Evaluation of Natural Gas Storage in Gallery No. 2, Seneca Lakes Storage, Inc. Storage Project, New York, Topical Report RSI-1574, REPEC, April 2002